



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/824,569

04/13/2004

Todd Kaplan

B-5327NP 621691-8

6558

7590

06/19/2006

Richard P. Berg, ESQ.

c/o LADAS & PARRY

Suite 2100

5670 Wilshire Boulevard

Los Angeles, CA 90036-5679

EXAMINER

NGUYEN, LINH V

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,569

Applicant(s)

KAPLAN, TODD

Examiner

Linh V. Nguyen

Art Unit

2819

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 4 – 35, 38 – 67, and 69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-46 is/are rejected.
- 7) ☒ Claim(s) 47 is/are objected to.
- 8) ☐ Claim(s) 2, 4 – 35, 38 - 40, 48 - 67, and 69 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to RCE filed on 5/26/06. Claims 1, 3, 36, 37 and 68 have been canceled. Claims 2, 4 – 35, 38 – 67, and 69 are pending on this office action.

Response to Arguments

2. Applicant's arguments with respect to claim 41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 41 – 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Steensgaard-Madsen U.S. patent No. 6,348,884.

Regarding claim 41, Fig. 14 of Steensgaard-Madsen discloses a digital-to-analog converter mismatch shaper (Col. 5 lines 45 - 50) comprising: a first input and a second input (d(k):0/1, 0/2); a control element (66) comprising at least three control element input (D, C); a switch (58, 60, 62) either switching or not switching the first input and the second input (0/1,0/2) according to the control element (66); and a tuning arrangement (3-state [outputs]) to adjust a frequency spectrum of DAC errors (Col. 5 lines 58 – 60), thus shaping the DAC errors away from a desired frequency band (See Fig. 12 and 13)

Art Unit: 2819

wherein two of the at least three control element (D) connected to the first input and the second input (d(k):0/1,0/2), and the third of the at least three control element inputs (C) is connected to the tuning arrangement (3-state [outputs]) .

Regarding claim 42, wherein the first input and the second input are digital inputs (d(k):0/1, 0/2).

Regarding claim 43; wherein the control element comprises a delta-sigma modulator (Col. 14 lines 40 – 45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 44 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steensgaard-Madsen as applied to claim 43 above, and further in view of Schreier et al. Pub.No.: US 2002/0105449.

Steensgaard-Madsen as applied to claim 43 above does not explicitly disclose the sigma-delta modulator having a filtering element and a quantizer; wherein the filtering element comprises at least one delay element; wherein the delay element comprises an adjustable gain circuit.

Fig. 5 of Schreier discloses a sigma-delta modulator having a filtering element (300) and a quantizer (200); wherein the filtering element (300) comprises at least one

Art Unit: 2819

delay element (10); wherein the delay element comprises an adjustable gain circuit (VGE).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to having the sigma-delta modulator formed by quantizer and adjustable gain filter circuit as taught by Schreier for the purpose of enhance the dynamic range of sigma-delta without causing the effectiveness of noise shaping to be degraded or a modulator become unstable (Schreier's paragraph 0016).

Allowable Subject Matter

7. Claim 47 , are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not teach wherein the filter element further comprises a plurality of transconductors, and wherein the turning arrangement frequency adjusting at least one transcoductor of the plurality of transconductors

8. Claims 2, 4 – 35, 38 - 40, 48 - 67, and 69 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to claim 2, in addition to other elements in the claim, prior art does not teach wherein the control arrangement has a first control input connected with me first digital input portion a second control input connected with the second digital input portion, and a control output, the control output allowing the switching element to

Art Unit: 2819

assume the second condition if the first digital input portion is different from the second-digital input portion.

With respect to claim 4, in addition to other elements in the claim, the prior art does not teach wherein the control arrangement comprises a subtractor, subtracting the first digital input portion from the second digital input portion, the subtractor having a subtractor output with a first subtractor output value if the first digital input portion is not in a predetermined relationship with the second digital input portion and a second subtractor output value if the first digital input portion is in a predetermined relationship with the second digital input portion.

With respect to claim 34, , in addition to other elements in the claim, the prior art does not teach wherein the clocking arrangement clocks the filter element and the quantizer.

With respect to claims 48 and 53, in addition to other elements in the respective claim, the prior art does not teach a control element to control switching of the switch, the control element connected with the evaluation element and the switching element, the control element comprising a quantizer having a quantizer output, wherein switching between the first digital input and the second digital input depends on the quantizer output when the first digital input and the second digital input are in predetermined relationship therebetween and switching between the first digital input and the second digital input does not depend on the quantizer output when the first digital input and the second digital input are not in the predetermined relationship therebetween.

Art Unit: 2819

With respect to claim 69, the prior art does not teach a first DAC having a first DAC input and a first DAC output; providing a second DAC having a second DAC input and a second DAC output; connecting the first circuit output with the first DAC input and the second circuit output with the second DAC input; subtracting the second DAC output from the first DAC output to provide a difference output; and inputting the difference output to a spectrum analyzer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Rexford Barnie can be reached at (571) 272-7492. The fax phone numbers for the organization where this application or proceeding is assigned are (571-273-8300) for regular communications and (571-273-8300) for After Final communications.

6/9/06

**LINH NGUYEN
PRIMARY EXAMINER**

Linh Van Nguyen

Art Unit 2819

